

THE AVENDT GROUP, INC.

ENGINEERS & SCIENTISTS

Mr. James J. Hahnenberg (SR-6J)
Remedial Project Manager
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

US EPA RECORDS CENTER REGION 5



501075

May 11, 2015

Re: **Monthly Progress Report, April 2015**
L.A. Darling Former Facility, NBFF OU2

Dear Mr. Hahnenberg,

Pursuant to Section XI. Order, paragraph 42 Progress Reports of the Administrative Order For Remedial Design and Remedial Action effective July 3, 2011 for the above referenced facility; this is the Monthly Progress Report for work completed during April 2015.

ACTIVITIES COMPLETED AND ANY PROBLEMS ENCOUNTERED –

1. **Remedial Action Phase 1, AS/SVE Installation Operation** – Operated a reported 30 days in the month of April 2015.
2. **Project Schedule** – The entire AS/SVE system will be operational until May 2015 (total of 2 years) or until instructed by regulatory agencies.
3. **AS/SVE Monthly O&M Summary Report** - The March and April 2015 Monthly O&M Summary Report for the AS/SVE System dated May 11, 2015 is attached.

VALIDATED DATA RECEIVED AND NOT PREVIOUSLY REPORTED-

1. **Lab Data-** No soil or groundwater sampling data was collected during the month.
2. **Groundwater Sampling-** Groundwater sampling of the on-site wells is scheduled for June 16 and 17, 2015.

RD/RA WORK PLANNED FOR NEXT 90 DAYS –

1. **On-Site Inspections-** Maintain liaison with RPM, MDEQ and OneSullivan Representative for scheduling of any on-site inspections.
2. **AS/SVE System Operation Improvements-** No changes are proposed for the AS/SVE system at the site.

ANTICIPATED PROBLEMS AND PLANNED RESOLUTIONS – None.

If you should have any questions or comments regarding this progress report, please do not hesitate to contact me at your convenience (312) 543-6257.

Respectfully,

The AVENDT GROUP, Inc.

Raymond J. Avendt
Raymond J. Avendt Ph.D. PE
Project Coordinator

Cc: B. Mead-O'Brien, MDEQ; S. Franzetti, NF LLP; T. Maley, OneSullivan, via email



DRILLING & ENVIRONMENTAL CONTRACTING SERVICES

AN ENVIRONMENTAL & GEOTECHNICAL SERVICES COMPANY

May 11, 2015

Dr. Ray Avendt, Ph.D., P.E.
217 Madison Avenue SE
Grand Rapids, Michigan 49503

RE: AS/SVE Monthly O&M Summary Report – March & April
Former LAD Store Fixtures, Bronson, MI

Dear Dr. Avendt:

E&G Drilling & Environmental Contracting Services (E&G) is submitting this summary report for the March 2015 and April 2015 operation, maintenance and monitoring (O&M) of the air sparge (AS) and soil vapor extraction (SVE) remediation system installed at the former LA Darling Store Fixtures facility located at 616 N. Matteson Street, Bronson, Michigan. Startup, shakedown and operation of the system commenced on May 7, 2013. The AS system includes 9 sparge wells screened in the shallow zone and 9 sparge wells screened in the intermediate zone. Sparging alternates from the shallow wells to the intermediate wells on 10 minute cycles. The flow to each AS well is individually controlled and metered. The SVE system includes 9 SVE wells and the flow from each SVE well is individually controlled and metered and the total combined discharge flow is metered. The discharge from the SVE system is currently exempt from air permit under Rule 290 and, therefore the vapors captured by the SVE system are directly discharged unobstructed vertically upward. Water and condensate that collect in the SVE conduits are collected in a knock-out (KO) tank and intermittently pumped through a flow meter, in-line particulate filter and liquid phase GAC vessel prior to onsite discharge. The KO water discharge from the SVE system is exempt under Groundwater Discharge Rule 210. During the May 7 and 8 startup the SVE Effluent, Intermediate stage and Influent gas streams were monitored with a photo-ionization detection (PID) unit, and a sample of the Influent was also collected and delivered to an analytical laboratory for VOC analysis.

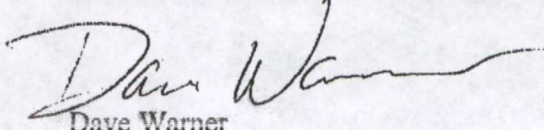
On March 11 and April 10, E&G performed a monthly site visits and O&M events. The O&M events included inspecting, monitoring, recording, adjusting, etc.; lubricant levels; leaks; AS & SVE flow rates; monitored conditions at the SVE flue gas effluent, intermediate and influent stages for each of the sparge zones; conditions at the 4 pressure probes via slack tube manometer; KO water and discharge; operation of the remote monitoring system auto-dialer; and, the general site condition.

The system operated for 61 days during the reporting period. As of April 30, 2015, approximately 230.5 lbs of VOC and 227 lbs of TCE, respectively, have been recovered by the SVE system.

Thank you for the opportunity to provide our environmental services to you. If you have any questions regarding this report, please contact me at 231-499-5479 or email at dave@eandgdrilling.com.

Sincerely,

E&G DRILLING & ENVIRONMENTAL CONTRACTING SERVICES



Dave Warner
Project Manager/Engineer

Cc: Chris Bade, ASI

Enclosures

Summary of Vapor Flow Rates and Concentrations - March 2015
Soil Vapor Extraction System
Former LAD Facility, NBFF OU2
606 N. Matteson St., Bronson, MI

Date	Flow Rate (scfm)	UC-VOC (mg/m ³)	C-VOC (mg/m ³)	UC-TCE (mg/m ³)	C-TCE (mg/m ³)
1	195	2.7		2.7	
2	195	2.7		2.7	
3	195	2.7		2.7	
4	195	2.7		2.7	
5	195	2.7		2.7	
6	195	2.7		2.7	
7	195	2.7		2.7	
8	195	2.7		2.7	
9	195	2.7		2.7	
10	195	2.7		2.7	
11	195	2.7		2.7	
12	195	2.7		2.7	
13	195	2.7		2.7	
14	195	2.7		2.7	
15	195	2.7		2.7	
16	195	2.7		2.7	
17	195	2.7		2.7	
18	195	2.7		2.7	
19	195	2.7		2.7	
20	195	2.7		2.7	
21	195	2.7		2.7	
22	195	2.7		2.7	
23	195	2.7		2.7	
24	195	2.7		2.7	
25	195	2.7		2.7	
26	195	2.7		2.7	
27	195	2.7		2.7	
28	195	2.7		2.7	
29	195	2.7		2.7	
30	195	2.7		2.7	
31	195	2.7		2.7	
Totals:	6045	84		84	
Average *:	195	3		3	
*For total operating days -		31.0			

Documentation of Monthly Discharge for Rule 290 Exemption from PTI
(Pursuant to R 201a of the Air Pollution Control Rules)
Former LAD Facility
606 N. Matteson St., Bronson, MI
March 2015

Sample(s) collected on: 1/17/15 (Summary table attached).

Compound	ITSL ($\mu\text{g}/\text{m}^3$)	IRSL ($\mu\text{g}/\text{m}^3$)	Controlled/ Uncontrolled Discharge (C/UC)	[A] Average Flow (cfm)	[B] *Average Concentration (mg/m^3)	[C] (²) Average Daily Recovery/ Discharge (lb./day)	[D] (³) Days Operating (days)	[E] (⁴) Pounds Recovered/ Discharged (lb./month)
VOC	NA	NA	C					
VOC	NA	NA	UC	195	2.7	0.047	31	1.5
TCE	2	0.2	C					
TCE	2	0.2	UC	195	2.7	0.047	31	1.5

Total Monthly VOC Discharged to Atmosphere (lb./month) (1): 1.5

Total Monthly TCE Discharged to Atmosphere (lb./month) (1): 1.5

Average Total Hourly VOC Emissions (lb./hr) (1): 0.00

Average Total Hourly TCE Emissions (lb./hr) (1): 0.00

Summary of VOC & TCE Recovered in Soil Vapor:

Year 2015 Total Pounds VOC Recovered (lb.): 4.2

Overall Total Pounds VOC Recovered to Date (lb.): 229.1

Year 2015 Total Pounds TCE Recovered (lb.): 4.2

Overall Total Pounds TCE Recovered to Date (lb.): 225.6

Summary of VOC & TCE Emissions:

Year 2015 Total Pounds VOC Discharged (lb.): 4.2

Overall Total Pounds VOC Discharged to Date (lb.): 172.8

Year 2015 Total Pounds TCE Discharged (lb.): 4.2

Overall Total Pounds TCE Discharged to Date (lb.): 169.8

NA - Not applicable.

ITSL - Initial Threshold Screening Level

IRSL - Initial Risk Screening Level

* Concentrations less than the method detection limits are assumed to be zero for use in the equations.

(1) Total uncontrolled discharge of VOC & TCE not to exceed 1,000 #/month & 20 #/month, respectively.

(2) $\text{scfm} \times \text{mg}/\text{m}^3 \times 0.00008986 = \text{lb./day}$ (or: $[A] \times [B] \times 0.00008986 = [C]$)

(3) System operated for 31 days.

(4) $\text{lb./day} \times \text{days/month operating} = \text{lb./month}$ (or: $[C] \times [D] = [E]$)

FORMER LA DARLING - BRONSON, MICHIGAN

SOIL VAPOR EXTRACTION SYSTEM - OPERATIONS & MAINTENANCE LOG

Technician: Chris Bask

Weather: Sunny - 40°F

Date: 3/11/15

Temp: 40°F Degree F

Electric Meter Reading: 73339 (Kw-Hr)

SVE SYSTEM: ON OFF

SENSAPHONE: ON OFF

HOURS METER READING: 23651.22

DAYS SINCE LAST VISIT: _____

ANY FAULT LIGHT(S) ON?: YES / NO

Vacuum Status Light?: ON/OK / OUT ?

IF YES, WHICH LABEL(S)?: _____

FAULT LITES TEST: OK / REPAIR Process Area Temp: _____ Degree F

	1	2	3	4	5	6	7	8	9	10
FLOWRATE: (SCFM)	<u>20</u>	<u>14</u>	<u>40</u>	<u>14</u>	<u>24</u>	<u>14</u>	<u>-</u>	<u>20</u>	<u>30</u>	<u>-</u>
PID: (ppm)	<u>not moving</u>	<u>moving</u>	<u>not moving</u>	<u>not moving</u>	<u>not moving</u>	<u>not moving</u>	<u>-</u>	<u>not moving</u>	<u>not moving</u>	<u>-</u>
VACUUM: (inHg)	<u>1.5</u>	<u>1.0</u>	<u>0</u>	<u>3.2</u>	<u>0.5</u>	<u>3.5</u>	<u>0</u>	<u>1.0</u>	<u>2.0</u>	<u>2.5</u>

KILMER LOOP VALVE: 10 % OPEN / CLOSED

DILUTION AIR VALVE: _____ % OPEN / CLOSED

Pre-SVE Blower Vacuum: 3.5/3.5 (in. Hg)

Post-HX GAS Temp.: _____ Degree F

Total Combined Flow: 195 (SCFM)

KO Tank Liquid Level: 0 (Inches)

KO Tank Transfer Pump: ON / OFF ?

KO Tank Flowmeter: 2122.55 - 2622.185 (Gallons)

FILTER ELEMENT CHANGEOUT?: YES / NO ?

Any Leaks? YES / NO ?

SVE VGAC PRESSURE READINGS: (Record psi)

VGAC TANK 1: _____ VGAC TANK 2: _____
(lead / lag?) (lead / lag?)

SVE PID MEASUREMENTS: (ppm) + Qualitative Olfactory Check (Odor? If yes, describe)

PROCESS ROOM: no odor EFFLUENT: 5.2 PPM

INTERMEDIATE/MIDFLUENT: _____ INFLUENT: _____

GAS SAMPLES (1/2 Liter Tedlar Bags, Only 72-Hours Hold Time, 8260+ DEQ LIST): VALVES CLOSED?

EFFLUENT:	YES / <u>NO</u> ?	1 OR 2 BAGS ?	<u>YES</u> / <u>NO</u> ?
INTERMEDIATE/MIDFLUENT:	YES / <u>NO</u> ?	1 OR 2 BAGS ?	<u>YES</u> / <u>NO</u> ?
INFLUENT:	YES / <u>NO</u> ?	1 OR 2 BAGS ?	<u>YES</u> / <u>NO</u> ?

ANY VISIBLE EMISSIONS FROM STACK?: YES / NO ?

SVE CARBON CHANGEOUT?: YES / NO ? VGAC TANK: _____ 1 OR 2 ?

COMMENTS / NOTES: Snow melting, ground becoming exposed, ground still frozen

FORMER LA DARLING SITE - BRONSON, MICHIGAN

AIR SPARGE SYSTEM - OPERATIONS & MONITORING LOG

Technician Chris Bach

Weather: Sunny

Date: 3/11/15

Temp: 40°

SVE SYSTEM: ON OFF

AS SYSTEM: ON OFF

AS PANEL HOURS: _____

AS HOURS SINCE LAST VISIT: _____

AS PANEL STATUS: ACTIVE INACTIVE

AS PANEL ROW SPARGING: _____

AS BLOWER DISCHARGE SYSTEM PRESSURE GAUGE: _____ PSI

AS BLOWER OIL LEVEL IN SIGHT GLASS?: YES / NO

Row/Bank Currently Sparging?:

SHALLOW OR INTERMEDIATE

Well No.:	AS1S	AS2S	AS3S	AS4S	AS5S	AS6S	AS7S	AS8S	AS9S
Pressure: (psi)	<u>3.0</u>	<u>2.2</u>	<u>2.5</u>	<u>1.5</u>	<u>2.5</u>	<u>1.5</u>	<u>3.5</u>	<u>0</u>	<u>2.5</u>
Flowrate: (SCFM)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Well No.:	AS1I	AS2I	AS3I	AS4I	AS5I	AS6I	AS7I	AS8I	AS9I
Pressure: (psi)	<u>3.0</u>	<u>13</u>	<u>12</u>	<u>11</u>	<u>13.5</u>	<u>16</u>	<u>16</u>	<u>17</u>	<u>13.5</u>
Flowrate: (SCFM)	<u>0</u>	<u>6</u>	<u>6</u>	<u>7</u>	<u>6</u>	<u>4</u>	<u>7</u>	<u>4.5</u>	<u>6</u>

Pressure Probes: (Use Manometer) (in. wc., +/- = vac or press):	PP-1 NW	PP-2 SW	PP-3 SE	PP-4 NE
	<u>-0.2</u>	<u>0</u>	<u>-0.2</u>	<u>-0.4</u>
PID (ppm):	<u>0</u>	<u>0</u>	<u>0.1</u>	<u>0</u>

COMMENTS / NOTES: _____

Summary of Vapor Flow Rates and Concentrations - April 2015
Soil Vapor Extraction System
Former LAD Facility, NBFF OU2
606 N. Matteson St., Bronson, MI

Date	Flow Rate (scfm)	UC-VOC (mg/m ³)	C-VOC (mg/m ³)	UC-TCE (mg/m ³)	C-TCE (mg/m ³)
1	190	2.7		2.7	
2	190	2.7		2.7	
3	190	2.7		2.7	
4	190	2.7		2.7	
5	190	2.7		2.7	
6	190	2.7		2.7	
7	190	2.7		2.7	
8	190	2.7		2.7	
9	190	2.7		2.7	
10	190	2.7		2.7	
11	190	2.7		2.7	
12	190	2.7		2.7	
13	190	2.7		2.7	
14	190	2.7		2.7	
15	190	2.7		2.7	
16	190	2.7		2.7	
17	190	2.7		2.7	
18	190	2.7		2.7	
19	190	2.7		2.7	
20	190	2.7		2.7	
21	190	2.7		2.7	
22	190	2.7		2.7	
23	190	2.7		2.7	
24	190	2.7		2.7	
25	190	2.7		2.7	
26	190	2.7		2.7	
27	190	2.7		2.7	
28	190	2.7		2.7	
29	190	2.7		2.7	
30	190	2.7		2.7	
Totals:	5700	81		81	
Average *:	190	3		3	
*For total operating days -		30.0			

Documentation of Monthly Discharge for Rule 290 Exemption from PTI
(Pursuant to R 201a of the Air Pollution Control Rules)
Former LAD Facility
606 N. Matteson St., Bronson, MI
April 2015

Sample(s) collected on: 1/17/15 (Summary table attached).

Compound	ITSL ($\mu\text{g}/\text{m}^3$)	IRSL ($\mu\text{g}/\text{m}^3$)	Controlled/ Uncontrolled Discharge (C/UC)	[A] Average Flow (cfm)	[B] *Average Concentration (mg/m^3)	[C] ⁽²⁾ Average Daily Recovery/ Discharge (lb./day)	[D] ⁽³⁾ Days Operating (days)	[E] ⁽⁴⁾ Pounds Recovered/ Discharged (lb./month)
VOC	NA	NA	C					
VOC	NA	NA	UC	190	2.7	0.046	30	1.4
TCE	2	0.2	C					
TCE	2	0.2	UC	190	2.7	0.046	30	1.4

Total Monthly VOC Discharged to Atmosphere (lb./month) ⁽¹⁾: 1.4

Total Monthly TCE Discharged to Atmosphere (lb./month) ⁽¹⁾: 1.4

Average Total Hourly VOC Emissions (lb./hr) ⁽¹⁾: 0.00

Average Total Hourly TCE Emissions (lb./hr) ⁽¹⁾: 0.00

Summary of VOC & TCE Recovered in Soil Vapor:

Year 2015 Total Pounds VOC Recovered (lb.): 5.6

Overall Total Pounds VOC Recovered to Date (lb.): 230.5

Year 2015 Total Pounds TCE Recovered (lb.): 5.6

Overall Total Pounds TCE Recovered to Date (lb.): 227.0

Summary of VOC & TCE Emissions:

Year 2015 Total Pounds VOC Discharged (lb.): 5.6

Overall Total Pounds VOC Discharged to Date (lb.): 174.2

Year 2015 Total Pounds TCE Discharged (lb.): 5.6

Overall Total Pounds TCE Discharged to Date (lb.): 171.2

NA - Not applicable.

ITSL - Initial Threshold Screening Level

IRSL - Initial Risk Screening Level

* Concentrations less than the method detection limits are assumed to be zero for use in the equations.

⁽¹⁾ Total uncontrolled discharge of VOC & TCE not to exceed 1,000 #/month & 20 #/month, respectively.

⁽²⁾ $\text{scfm} \times \text{mg}/\text{m}^3 \times 0.00008986 = \text{lb./day}$ (or: $[A] \times [B] \times 0.00008986 = [C]$)

⁽³⁾ System operated for 30 days.

⁽⁴⁾ $\text{lb./day} \times \text{days/month operating} = \text{lb./month}$ (or: $[C] \times [D] = [E]$)

FORMER LA DARLING - BRONSON, MICHIGAN

SOIL VAPOR EXTRACTION SYSTEM - OPERATIONS & MAINTENANCE LOG

Technician: DW

Weather: Pt. Sunny Windy

Date: 4-10-15

Temp: 50 Degree F

Electric Meter Reading: 81157 (Kw-Hr)

SVE SYSTEM: ON OFF

SENSAPHONE: ON OFF

HOURS METER READING: 24372 27

DAYS SINCE LAST VISIT: _____

ANY FAULT LIGHT(S) ON?: YES / NO

Vacuum Status Light?: ON/OK / OUT

IF YES, WHICH LABEL(S)?: _____

FAULT LITES TEST: OK / REPAIR

Process Area Temp: 80 Degree F

	1	2	3	4	5	6	7	8	9
FLOWRATE: (SCFM)	18	18	38	14	22	14	30	18	28
PID: (ppm)									
VACUUM: (inHg)	1	0	0	3	0	3	0	1	1.5

KILMER LOOP VALVE: 10 % OPEN / CLOSED

DILUTION AIR VALVE: 0 % OPEN / CLOSED

Pre-SVE Blower Vacuum: 2.5 (in. Hg) 3

Pre-HX GAS Temp.: 122 Degree F

Total Combined Flow: 190 (SCFM)

KO Tank Liquid Level: 0 (Inches)

KO Tank Transfer Pump: ON / OFF? ON

KO Tank Flowmeter: 0262218 (Gallons)

FILTER ELEMENT CHANGEOUT?: YES / NO

Any Leaks? YES / NO

Pre-HX Pressure: 0.5 (Record psi)

SVE VGAC PRESSURE READINGS: (psi) VGAC TANK 1: / (lead / lag?) VGAC TANK 2: / (lead / lag?)

SVE PID MEASUREMENTS: (ppm) + Qualitative Olfactory Check (Odor? If yes, describe)

PROCESS ROOM: 0.0 no odor EFFLUENT: = Influent

INTERMEDIATE/MIDFLUENT: / INFLUENT: (Shallow) 2.0 mod odor (Deep) 2.3 mod odor

GAS SAMPLES (1/2 Liter Tedlar Bags, Only 72-Hours Hold Time, 8260+ DEQ LIST): VALVES CLOSED?

EFFLUENT:	YES / <u>NO</u>	1 OR 2 BAGS ?	<u>YES</u> / NO ?
INTERMEDIATE/MIDFLUENT:	YES / <u>NO</u>	1 OR 2 BAGS ?	<u>YES</u> / NO ?
INFLUENT:	YES / <u>NO</u>	1 OR 2 BAGS ?	<u>YES</u> / NO ?

ANY VISIBLE EMISSIONS FROM STACK?: YES / NO

SVE CARBON CHANGEOUT?: YES / NO VGAC TANK: 1 OR 2 ?

COMMENTS / NOTES: Grease SVE blower bearings

FORMER LA DARLING SITE - BRONSON, MICHIGAN

AIR SPARGE SYSTEM - OPERATIONS & MONITORING LOG

Technician DW

Weather: PT Sunny Windy

Date: 4-10-15

Temp: 50

SVE SYSTEM: ON OFF

AS SYSTEM: ON OFF

AS PANEL HOURS: _____

AS HOURS SINCE LAST VISIT: _____

AS PANEL STATUS: ACTIVE INACTIVE

AS PANEL ROW SPARGING: _____

AS BLOWER DISCHARGE SYSTEM PRESSURE GAUGE: _____ PSI

AS BLOWER OIL LEVEL IN SIGHT GLASS?: YES / NO

Row/Bank Currently Sparging?: SHALLOW OR INTERMEDIATE

Well No.:	AS1S	AS2S	AS3S	AS4S	AS5S	AS6S	AS7S	AS8S	AS9S
Pressure: (psi)	<u>6</u>	<u>5</u>	<u>8</u>	<u>8</u>	<u>8.5</u>	<u>7</u>	<u>8</u>	<u>7</u>	<u>5.5</u>
Flowrate: (SCFM)	<u>0</u>	<u>3</u>	<u>8</u>	<u>5</u>	<u>5.1</u>	<u>2</u>	<u>11</u>	<u>7</u>	<u>3</u>

Well No.:	AS1I	AS2I	AS3I	AS4I	AS5I	AS6I	AS7I	AS8I	AS9I
Pressure: (psi)	<u>4</u>	<u>14</u>	<u>13.5</u>	<u>13</u>	<u>16.5</u>	<u>17.5</u>	<u>17</u>	<u>12.5</u>	<u>13</u>
Flowrate: (SCFM)	<u>0</u>	<u>6</u>	<u>3</u>	<u>7</u>	<u>7</u>	<u>4</u>	<u>6</u>	<u>4.5</u>	<u>0</u>

Pressure Probes: (Use Manometer) (in. wc., +/- = vac or press):	PP-1 (NW)	PP-2 (SW)	PP-3 (SE)	PP-4 (NE)
	<u>0.0</u>	<u>0.0</u>	<u>0.1</u>	<u>0.0</u>
PID (ppm):	<u>0.0</u>	<u>0.0</u>	<u>0.1</u>	<u>0.0</u>

COMMENTS / NOTES: Replaced gasket in Camlock between
Air pump and AS Header